

**EXPLORING THE FULL RANGE OF PROPERTIES OF QUASAR SPECTRAL DISTRIBUTIONS**

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Final Report

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The aim of this work is to support our ISO, far-infrared (IR) observing program of quasars and active galaxies. We have obtained, as far as possible, complete spectral energy distributions (radio-X-ray) of the ISO sample in order to fully delineate the continuum shapes and to allow detailed modelling of that continuum. This includes: ground-based optical, near-IR and mm data, the spectral ranges closest to the ISO data, within 1-2 years of the ISO observations themselves. ISO was launched in Nov 1995 and is currently observing routinely. It has an estimated lifetime is 2 years. All near-IR and optical imaging and spectroscopy are now in hand and in the process of being reduced, mm data collection and proposal writing continues.

A 5-night CCD imaging run on the SAO 48" in Dec 1995 and 2 nights run remotely from SAO in 1996, all by Dr. McLeod, resulted in completion of the ground-based optical CCD photometry and imaging of all the northern objects in our sample along with many objects that were not in our final observing list. These data are in the process of being reduced and analysed. Drs. Wilkes and McLeod attended two 4 night runs (Oct 1995, March 1996) on the Steward Observatory 61" telescope on Mt. Bigelow, completing the ground-based near-IR photometry and imaging of all the northern sources. Similar images of two southern objects were obtained by colleagues at CTIO in July 1996. All the northern data have been reduced and analysed. We have completed a program to obtain low-resolution optical spectra of all the northern objects with the SAO 60" telescope.

Alice Shapley, an SAO summer intern, worked with us to set up our multi-wavelength database using the TIGER software written by our co-I, Jonathan McDowell. She completed data entry of all data obtained by us to date along with key multi-wavelength data for the HEAO sample from the thesis of Grossan. This new data has been merged with that already in TIGER with SEDs generated in a separate ISO directory.

Drs Wilkes and Hooper hosted a visit from ISO/mm collaborators Dr. David Hughes in October 1997 during which they discussed plans for the mm collaboration and a paper on 1202-0727 ISO data.

### Conferences and talks

Dr. Wilkes presented invited colloquia entitled "The Infrared Continua of Quasars" at STScI in June 1997 and at the University of Nebraska, Lincoln in Oct 1997. She also presented a colloquium on "Quasars: A full view" at Wesleyan University in March 1997.